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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/887,778

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Carl M. Panasik

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07/28/2008

TEXAS INSTRUMENTS INCORPORATED

P O BOX 655474, M/S 3999

DALLAS, TX 75265

EXAMINER

PEREZ, ANGELICA

ART UNIT

PAPER NUMBER

2618

NOTIFICATION DATE

DELIVERY MODE

07/28/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 09/887,778	Applicant(s) PANASIK ET AL.	
	Examiner Perez M. Angelica	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/5/2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Appeal Brief filed 5/5/2008 with respect to the rejection(s) of claim(s) 1-31 under 35 U.S.C. 102(e) and 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Chen.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1-2, 10, 28-31 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang, Shih-Jeh (Chang, US Patent No.: 6188890B1) in view of Chen et al. (Chen, US007260401B2).

Regarding claim 1, Chang teaches of a method of power management of data communication, a method of data communication between a base station and a mobile station over a wireless communication network (figure 3, item 303 corresponding to the MS and 304,305 corresponding to the wireless communication), the method comprising the steps of: transmitting a data signal between a mobile station and a base station

(column 1, lines 39-44, where the components of cellular systems communicate data signals among them); monitoring the data signal received by the mobile station from the base station (column 2, lines 43-45); and disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from (columns 6 and 10, lines 34-45 and 7-13, respectively), the base station (column 7, lines 1-3; where the user is "distracted from the conversation" and not allowed to talk, therefore, no data signals are sent from the MS to the BS) when the mobile station is in a shadow of the base station (column 6, lines 35-37).

Chang is not specific about disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from the base station.

In related art concerning a method and apparatus for flexible call recovery in a wireless communication system, Chen teaches about disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from the base station (columns 7 and 14, lines 57-62 and 24-26, respectively; where the MS continues receiving data signals and quantifying the number of erased frames in the received signals in order to make a decision whether to turn the transmitter back on).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's detection of shadowing with Chen's disabling of the transmitter in order to save power, in addition, Chen's invention presents a variation of Chang's invention in order to save power.

Regarding claim 2, Chang and Chen teach all the limitations according to claim 1. In addition, Chang teaches where the step of monitoring the data signal received by the mobile station from the base station comprises monitoring the signal to noise ratio (SNR) of the data signal received by the mobile station from the base station to provide a determination whether the mobile station is in a shadow of the base station (column 2, lines 43-61 and column 4, lines 54-58).

Regarding claim 10, Chang teaches of a method of power management of data communication, a method of data communication between a base station and a mobile station over a wireless communication network (figure 3, item 303 corresponding to the MS and 304, 305 corresponding to the wireless communication), the method comprising the steps of: transmitting a data signal between a mobile station and a base station (column 1, lines 39-44, where the components of cellular systems communicate data signals among them); monitoring the signal to noise ratio (SNR) of the data signals received by the mobile station from the base station to provide a determination whether the mobile station is in a shadow of the base station (column 2, lines 43-61 and column 4, lines 54-58). Chang is not specific about disabling transmission of data signals from and maintaining reception of the data signals by the mobile station, when the mobile station is in a shadow of the base station.

Chen teaches about disabling transmission of data signals from and maintaining reception of the data signals by the mobile station, when the mobile station is in a shadow of the base station (columns 7 and 14, lines 57-62 and 24-26, respectively; where the MS continues receiving data signals and quantifying the number of erased

frames in the received signals in order to make a decision whether to turn the transmitter back on; and column 7, lines 28-31, e.g., "border point of the coverage area of the BS" corresponding to being "in a shadow of the base station").

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's detection of shadowing with Chen's disabling of the transmitter in order to save power, in addition, Chen's invention presents a variation of Chang's invention in order to save power.

Regarding claim 28, Chang teaches of a method of power management in a wireless communication transceiver comprising the steps of (figure 8, item 8): monitoring the data signal received by the transceiver (column 2, lines 43-45).

Chang is not specific about disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the received signal quality falls bellow a pre- determined threshold.

Chen teaches about disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the received signal quality falls bellow a pre-determined threshold (column 7, lines 53-62).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's detection of shadowing with Chen's disabling of the transmitter in order to save power, in addition, Chen's invention presents a variation of Chang's invention in order to save power.

Regarding claim 29, Chang and Chen teach all the limitations according to claim 28. Chang further teaches where the received quality signal is defined by SNR (column 2, lines 43-61 and column 4, lines 54-58).

Regarding claim 30, Chang and Chen teach all the limitations according to claim 28. Chang further teaches where the received signal quality is defined as a received signal level (column 5, lines 28-31).

Regarding claim 31, Chang and Chen teach all the limitations according to claim 28. Chang further teaches where the wireless communication transceiver is a cellular handset transceiver (figure 8, item 804).

1. Claim 3, 5-8, 11-14, 16-20 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang, Shih-Jeh (Chang, US Patent No.: 6188890B1) in view of Chen and further in view of Rainish et al. (Rainish, US 6606490B1).

Regarding claim 16, Chang teaches of a method of power management of data communication, a method of data communication between a base station and a mobile station over a wireless communication network (figure 3, item 303 corresponding to the MS and 304, 305 corresponding to the wireless communication), the method comprising the steps of: transmitting a data signal between a mobile station and a base station (column 1, lines 39-44, where the components of cellular systems communicate data signals among them); monitoring the data signal received by the mobile station from the base station (column 2, lines 43-45).

Chang is not specific about disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the mobile station is in a shadow of the base station.

Chen teaches about disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the mobile station is in a shadow of the base station (column 7, lines 53-62).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's detection of shadowing with Chen's disabling of the transmitter in order to save power, in addition, Chen's invention presents a variation of Chang's invention in order to save power.

Chang and Chen do not explicitly teach of transmitting a signal from the base station to the mobile station that indicates a loss of at least one primary base station rake finger to provide a determination whether the mobile station is in a shadow of the base station.

In related art regarding the method of battery operated radio receivers having power save reducing active reception time, Rainish teaches of transmitting a signal from the base station to the mobile station that indicates a loss of at least one primary base station rake finger to provide a determination whether the mobile station is in a shadow of the base station (column 1 and 2, lines 28-35 and 21-29, 42-52, respectively, lines 33-36; where it is well known in the art that the loss of a at least one primary base station rake finger is an indication of loss of signal or shadowing).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's and Chen's detection of shadowing and disabling transmission with Rainish's detection through the loss of a finger in a rake antenna in order to accomplish detection through different methods.

Regarding claim 3, Chang and Chen teach all the limitations according to claim 1. Rainish teaches where the step of monitoring the data signal received by the mobile station from the base station comprises receiving a control signal from the base station that indicates a loss of station rake fingers to provide a determination whether the mobile station is in a shadow of the base station (column 5, lines 23-25; where the rake receiver corresponds to the BS).

Regarding claims 5, 11 and 17, Chang and Chen teach all the limitations according to claim 1. Rainish also teaches where the step of disabling transmission of the data signal by the mobile station when the mobile station is in a shadow of the base station comprises causing a transmitter associated with the mobile station to ramp down its power output until the mobile station transmitter enters an idle (off) state (column 4, lines 32-37 and 1-2; where a "sleep" mode corresponds to the "idle state").

Regarding claims 6, 12 and 18, Chang and Chen teach all the limitations according to claim 1. Rainish teaches where the step of disabling transmission of the data signal by the mobile station when the mobile station is in a shadow of the base station comprises causing a transmitter associated with the mobile station to ramp down its power output to achieve a power condition associated with a previous period of time

(column 4, lines 34-41; where the "waking up" corresponds to the previous power condition).

Regarding claims 7, 13 and 19, Chang and Chen teach all the limitations according to claim 1. Rainish teaches the step of enabling transmission of the data signal by the mobile station when the mobile station is no longer in a shadow of the base station, subsequent to disabling transmission of the data signal at a previous power level by the mobile station (column 4, lines 32-41).

Regarding claims 8, 14 and 20, Chang and Chen teach all the limitations according to claim 1. Rainish teaches where the step of enabling transmission of the data signal by the mobile station subsequent to disabling transmission of the data signal by the mobile station comprises causing a transmitter associated with the mobile station to ramp up its power output until the mobile station transmitter output power level reaches a previous power level (column 4, lines 34-41; where the increase in power occurs during the "waking up" period).

2. Claims 4 and 22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Chen and further in view of Kido, Toru (Kido, US005977881A).

Regarding claim 22, Chang teaches of a method of power management of data communication, a method of data communication between a base station and a mobile station over a wireless communication network (figure 3, item 303 corresponding to the MS and 304, 305 corresponding to the wireless communication), the method comprising the steps of: transmitting a data signal between a mobile station and a base station (column 1, lines 39-44, where the components of cellular systems communicate data

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signals among them); monitoring the data signal received by the mobile station from the base station (column 2, lines 43-45)

Chang is not specific about disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the mobile station is in a shadow of the base station.

Chen teaches about disabling the ability of the mobile station to transmit data signals to, while maintaining the ability of the mobile station to receive data signals from, the base station when the mobile station is in a shadow of the base station (column 7, lines 53-62).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's detection of shadowing with Chen's disabling of the transmitter in order to save power, in addition, Chen's invention presents a variation of Chang's invention in order to save power.

Chang and Chen do not specifically teach of detecting an abrupt change in signal delay received by the mobile station from the base station to provide an indication of whether or not the mobile station is in a shadow of the base station. In related art regarding radio selective calling receiver having battery saving function, Kido teaches of detecting an abrupt change in signal delay received by the mobile station from the base station to provide an indication of whether or not the mobile station is in a shadow of the base station (columns 3 and 4, lines 62-67 and 1- 10, respectively).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's and Chen's detection of shadowing and

transmission disabling with Kido's shadowing detection through abrupt changes as another method to detect shadowing.

Regarding claim 4, Chang and Chen teach all the limitations according to claim

1. Kido teaches the steps of monitoring the delay of the data signal received by the mobile station from the base station; and identifying an abrupt change in the delay received by the mobile station from the base station to provide an indication of whether the mobile station is in a shadow of the base station (columns 3 and 4, lines 62-67 and 1-10, respectively).

3. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Chen and Kido and further in view of Rainish.

Regarding claim 23, Chang, Chen and Kido teach all the limitations according to claim 1. Rainish teaches where the step of disabling transmission of the data signal by the mobile station when the mobile station is in a shadow of the base station comprises causing a transmitter associated with the mobile station to ramp down its power output until the mobile station transmitter enters an idle (off) state (column 4, lines 32-37 and 1-2; where a "sleep" mode corresponds to the "idle state").

Regarding claim 24, Chang, Chen and Kido teach all the limitations according to claim 1. Rainish teaches where the step of disabling transmission of the data signal by the mobile station when the mobile station is in a shadow of the base station comprises causing a transmitter associated with the mobile station to ramp down its power output to achieve a power condition associated with a previous period of time (column 4, lines 34-41; where the "waking up" corresponds to the previous power condition).

Regarding claim 25, Chang, Chen and Kido teach all the limitations according to claim 1. Rainish further teaches the step of enabling transmission of the data signal by the mobile station when the mobile station is no longer in a shadow of the base station anal subsequent to disabling transmission of the data signal at a previous power level by the mobile station (column 4, lines 32-41).

Regarding claim 26, Chang, Chen and Kido teach all the limitations according to claim 1. Also, Rainish teaches where the step of enabling transmission of the data signal by the mobile station subsequent to disabling transmission of the data signal by the mobile station comprises causing a transmitter associated with the mobile station to ramp up its power output until the mobile station transmitter output power level reaches a previous power level (column 4, lines 34-41; where the increase in power occurs during the "waking up" period).

4. Claims 9, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Chen and further in view of Bergins (Bergins et al., Patent No. 6,564,071 B1).

Regarding claims 9, 15 and 21, Chang and Chen teach all the limitations according to claim 1.

Chang and Chen do not specifically teach where the step of enabling transmission of the data signal by the mobile station subsequent to disabling transmission of the data signal by the mobile station comprises causing a transmitter associated with the mobile station to ramp up its power output until the mobile station

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transmitter output power level reaches the maximum power level. In related art regarding transmission of data over a cellular telephone channel.

Bergins teaches where the step of enabling transmission of the data signal by the mobile station subsequent to disabling transmission of the data signal by the mobile station comprises causing a transmitter associated with the mobile station to ramp up its power output until the mobile station transmitter output power level reaches the maximum power level (column 3, lines 13-21 and figure 2, items 203, 204 and 205; where the threshold determines a minimum and minimum level).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's and Chen's enabling transmission with Bergins' power level determinant in order to restart connection after a maximum power level is reached.

5. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Chen and Kido and further in view of Bergins.

Regarding claim 27, Chang, Chen and Kido teach all the limitations according to claim 1.

Chang, Chen and Kido do not specifically teach where the step of enabling transmission of the data signal by the mobile station subsequent to disabling transmission of the data signal by the mobile station comprises causing a transmitter associated with the mobile station to ramp up its power output until the mobile station transmitter output power level reaches the maximum power level.

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In related art regarding transmission of data over a cellular telephone channel, Bergins teaches where the step of enabling transmission of the data signal by the mobile station subsequent to disabling transmission of the data signal by the mobile station comprises causing a transmitter associated with the mobile station to ramp up its power output until the mobile station/ transmitter output power level reaches the maximum power level (column 3, lines 13-21 and figure 2, items 203, 204 and 205; where the threshold determines a minimum and minimum level).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Chang's, Chen's and Kido's enabling transmission with Bergins' power level determinant in order to restart connection after a maximum power level is reached.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 6:00 a.m. - 2:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only.

For more information about the pair system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.

/Perez M. Angelica/

Examiner, Art Unit 2618

July 20, 2008

/Matthew D. Anderson/

Supervisory Patent Examiner, Art Unit 2618